

CONTENT ADDRESSABLE DATA STORAGE AND  
COMPRESSION FOR SEMI-PERSISTENT COMPUTER  
MEMORY FOR A DATABASE MANAGEMENT SYSTEM

ABSTRACT

Content addressable data storage and compression for semi-persistent computer memory for a database management system including providing a data structure that associates data identifiers and retrieval keys for memory blocks for storing in semi-persistent memory data from the database management system; searching for a segment of a chunk of data from the database management system that matches a memory block from semi-persistent memory; and if a matching segment is found: discarding the matching segment; storing in the data structure in the database management system a retrieval key for the matching segment in association with a data identifier; identifying an unmatched portion of the chunk that does not match the memory block; storing the unmatched portion semi-persistently in a free memory block from a file system; and storing in the data structure in the database management system a retrieval key for the unmatched portion in association with the data identifier.